October 4, 1989
4-1221-8900-328

To:	V. J. Vinson	4-1200	6U-04
cc:	Yvette Barnett	R-6010	62-15
	H. E. Bauer	R-1840	91-10
	J. A. Erwin	4-1200	6U-01
	J. V. Medzegian	4-1200	6U-24
	N. P. Novak	4-1221	6U-04
	Gary Scherck	4-1200	9A-26

Subject: Incident Response Evaluation 10/4/89 at the 10-71 Building.

Individuals Responding to scene:

Renton Safety personnel
Renton Haz Mat Team
City of Renton Fire Department
Boeing Fire Department
BMT Chemist
BMT Management

11:20 Contacted by Renton Safety about an emergency at the 10-71 building. No additional information available.

11:35 Arrive on site.

11:40 Informed by Renton Safety that a bottle labelled "Poison Explosive" was found by lab personnel. About 2 oz. of crystalline material in a brown glass bottle.

Label stated mercuric oxy cyanide. Actual chemical name Mercuric Cyanide Oxide $Hg_2(CN)_2O$. Listed as a POISON B and potentially explosive.

11:45 Dave Huizen, Safety Administrator, had contacted the ordinance organization, Jack Eisman (393-5071) for information about the explosive potential of the material. Reference used, NFPA 491 M, Manual of Hazardous Chemical Reaction, 1986.

The above reference indicated that the material is self-reactive. Rubbing the material is a frequent cause of explosion.

Jack Eisman stated that the material has a weak explosion potential. Given the proper condition, it may explode with the force of a small fire-cracker.

The material was reported to be relatively stable from shock and explosive when heated to 2600 F. Also the material is moderately soluble in water.

A possible solution was to slowly open the container in a 5 gallon bucket of water. The material would be diluted by the water and an explosion potential would be eliminated.

12:45 Gary Scherck arrived at the site. He decided the material should be opened by the King County Bomb Squad and then the material neutralized by a three-step process which would acidify the solution driving off the hydrogen cyanide. The resulting solution would contain a mercury sulfide precipitate.

12:55 The opening of the container was to be done in the parking lot by the Bomb Squad, then the chemical neutralization would be performed by the Renton Haz Mat team, Gary Scherck and Bill Christy.

13:00 Industrial Hygiene Left the site.

13:30 Called by Renton Safety. Instructed by them that the neutralization procedure had been changed and would be done inside the building. An Industrial Hygienist was needed to monitor for Hydrogen Cyanide (HCN).

14:00 Arrived on site with appropriate detector tubes.

14:01 Instructed by the City of Renton (Gary Gordon) that the decision to move the material inside was a joint decision between Environmental and the City. I stated to the City of Renton incident commander that, "I feel the decision to move the material inside the building is a poor one". I could not understand why a potentially explosive material was being transported into a building which houses thousands of chemicals. I received no reply. I told the Incident Commander that I would do the hydrogen cyanide monitoring after the neutralization was complete.

2:22 The Bomb Squad entered the building followed by two City of Renton Firemen in (Nitrile) Level-B Entry Suits. This was extremely inappropriate. If an explosion and fire had occurred the heat could melt the suits onto the fireman. THEY SHOULD HAVE BEEN IN TURN OUT GEAR.

2:27 The Bomb Squad exited the building and two Haz Mat members, Gary Scherck and Bill Christy, entered to perform the neutralization.

14:57 Neutralization- proceeded as expected. No problems occurred.

14:59 Back-up team entered to take air samples for hydrogen cyanide. Samples were taken in the lab hood, the lab, the hallway and upstairs directly above the area. Initially the samples were reported at 2ppm in the lab hood and hallway. However, after inspection of the tubes it was obvious the stain was the result of some type of interference and not due to HCN. Based on the samples taken, the building was cleared for re-entry at 15:25.

Conclusion:

Emergency responses are complicated and require excellent communication by all parties involved. The communication was poor and some of the decisions made resulted in greater risk to personnel and to property. Specifically, the decision to transport a potentially explosive material into a building to neutralize it was wrong. One should never place environmental concerns over the employees lives. If the material actually exploded and started a fire in the 10-71 building, then we may have had injured individuals inside a burning building which house thousands of chemicals. Because all parties involved did not communicate effectively, priorities became confused and individuals were placed at an increased risk as opposed to a reduced risk. The proper solution would have been for the Bomb Squad to open the material in the parking lot under a constructed barrier which could contain the mercury if the material exploded. Then the Chemist could have performed the neutralization. The release of HCN was not large enough to cause problems outside, yet could have caused problems inside the building. From a hazardous waste standpoint, much larger quantities of waste would have been generated if an explosion occurred inside the building as opposed to the outside of the building.

In the future emergency response decisions should attempt to be made by consensus. It is my understanding that the City of Renton has complete control of the site once they arrive, however for them to neglect input from Boeing safety staff is inappropriate. Hazardous Material clean up often results in complex problems and therefore all possible solutions should be considered. The decision by the City of Renton to exclude input from Boeing personnel resulted in an increased risk to **Boeing personnel** and Boeing property. Also, by not making an informed decision the city of Renton failed to consider other options. For example, 1) Constructing a containment area in the parking lot, 2) Contact the manufacturer of the material (Eastman Kodak) for a disposal procedure. Both of the above control measures were options because time was not a factor. This incident was not an emergency, the material was very stable in the closed container and could have remained in the location until an appropriate disposal procedure was developed.

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4-1221 6U-04 393-4743